Communicating with Vaccine Hesitant Parents

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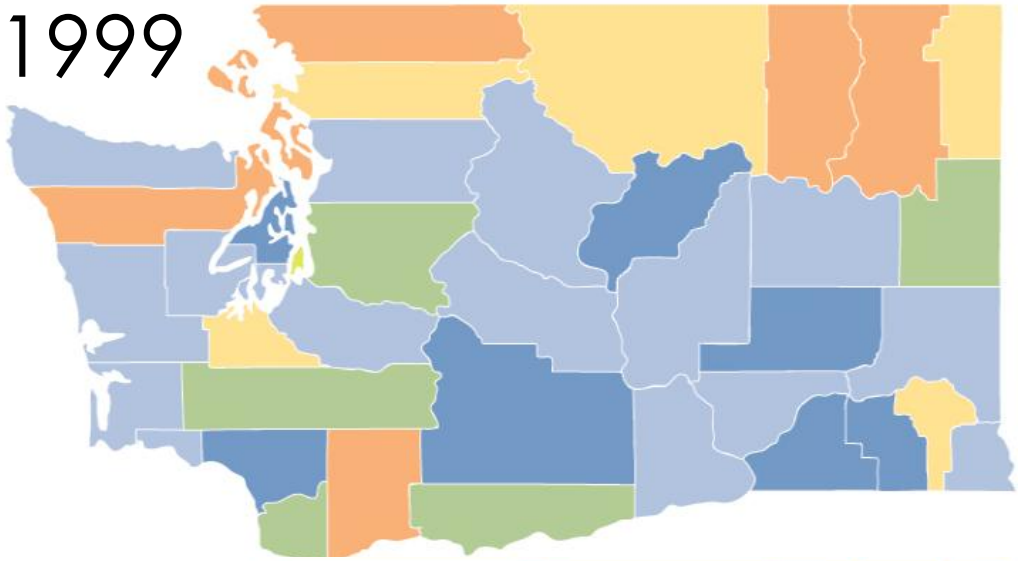
Disclosures

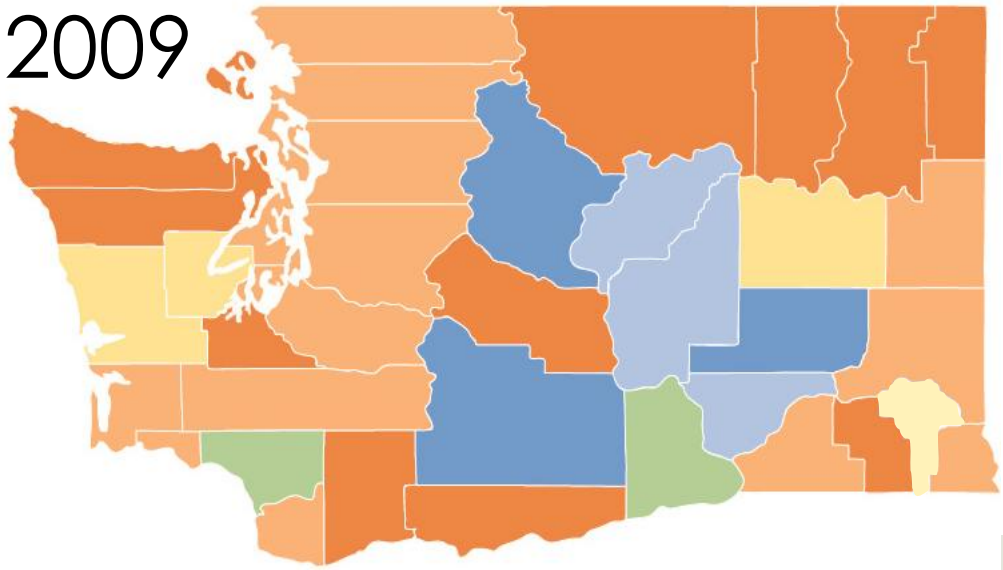
Goals

- Discuss parental concerns and categories of hesitant parents
- Provide resources for parents and providers
- Review specific case examples to illustrate types of concerns that parents have
- Discuss how to address specific and general concerns of parents

Background

School Immunization Exemptions

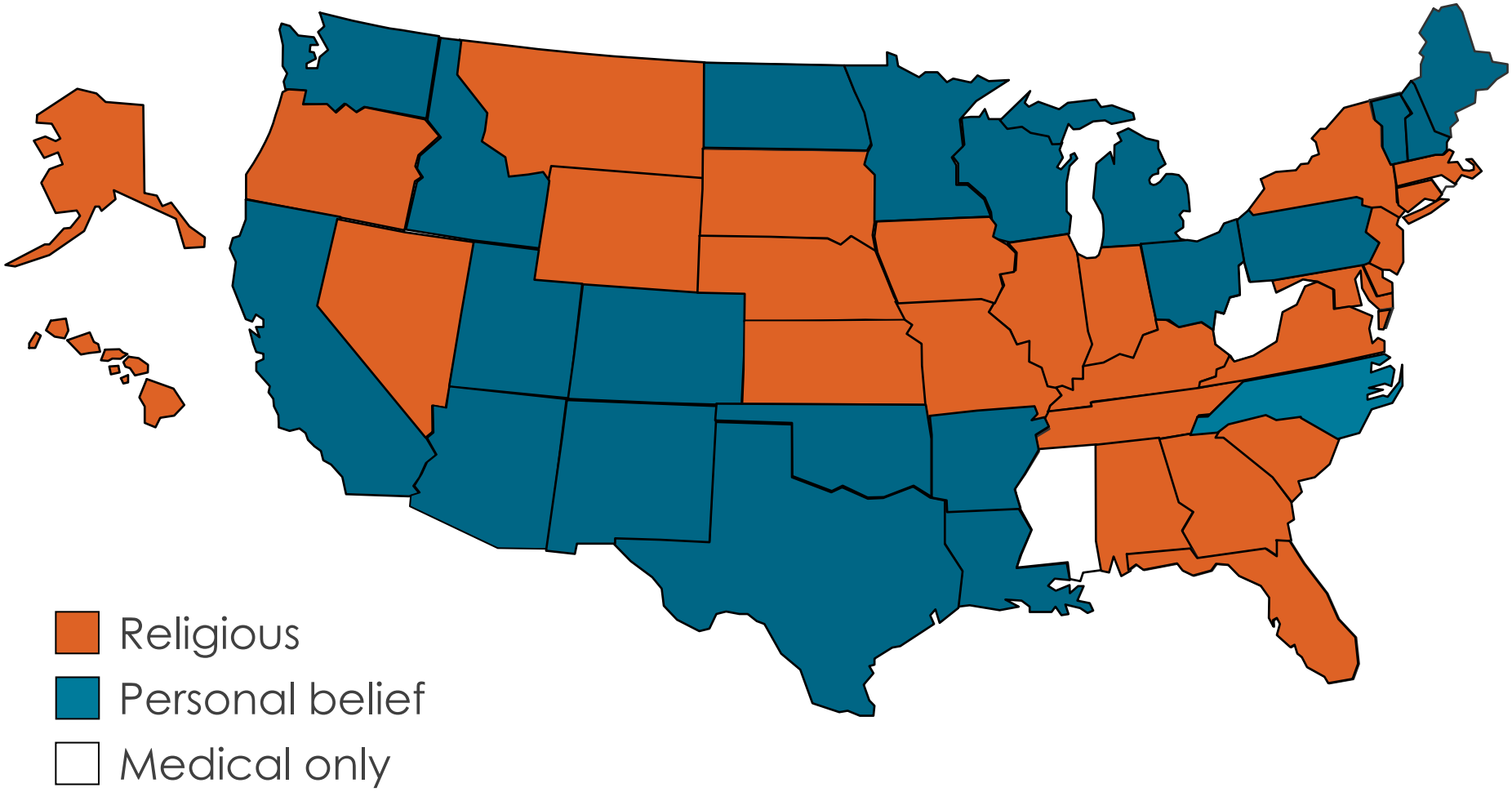




Washington State School Entry Immunization Exemptions

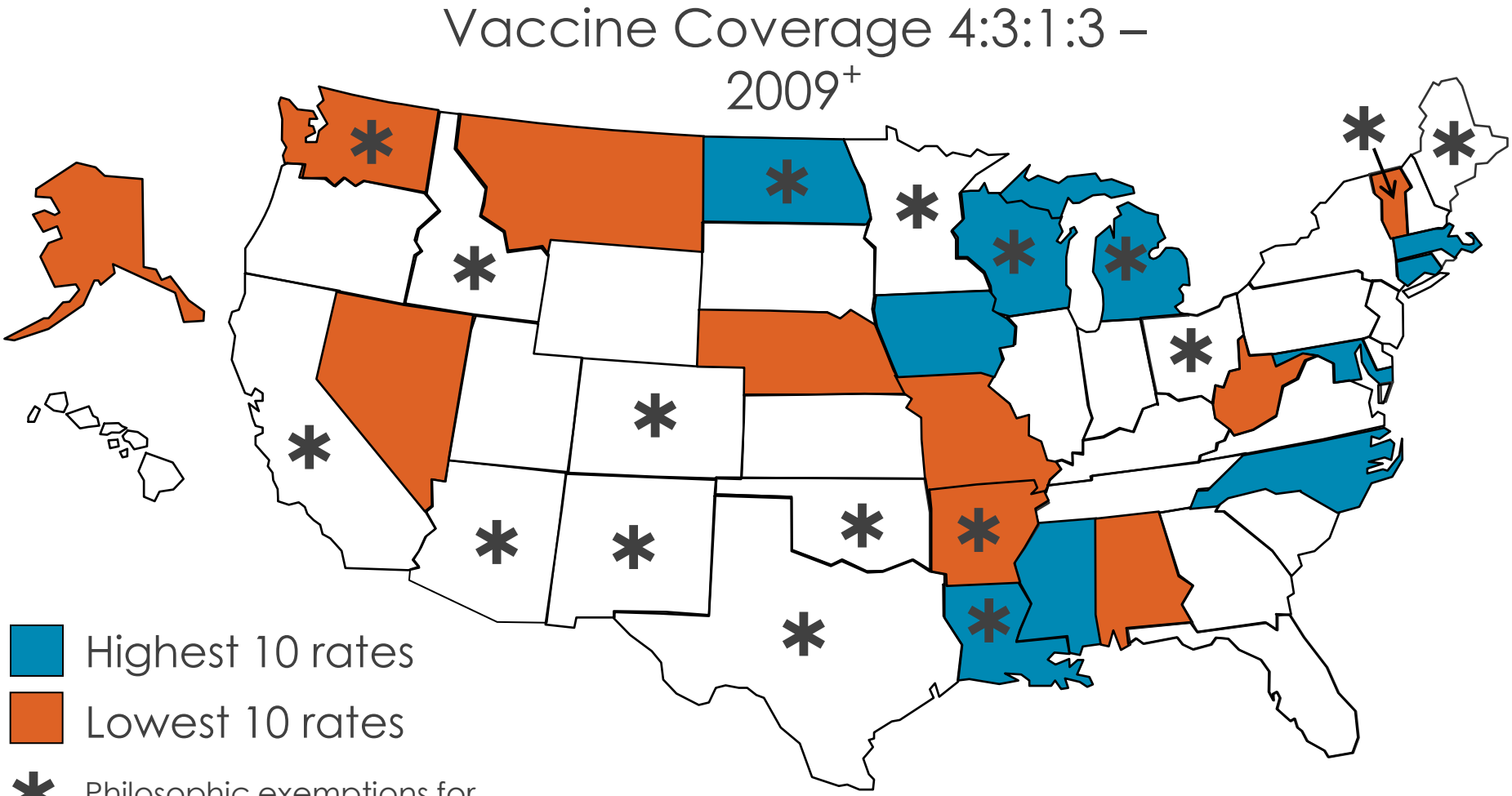
- <2.0%
- 2.0-2.9%
- 3.0-3.9%
- 4.0-4.9%
- 5.0-9.9%
- >10.0%

Types of Exemptions



Source: Institute for Vaccine Safety http://www.vaccinesafety.edu/cc-exem.htm

Immunization Coverage & Philosophic Exemptions



+National Immunization Survey U.S. 2009, vaccine series (modified)

Diseases Perceived by the Public as a Threat to Personal and Public Health

1967

- ✓ Smallpox
- ✓ DTP
- ✓ Polio (OPV)
- Measles
- Rubella

2007

- ✓ DTaP, Tdap
- ✓ Polio (IPV)
- MMR
- Hib
- HepB
- HepA
- PCV13
- ✓ MCV4
- Influenza
- Rotavirus
- HPV

Vaccines and vaccine preventable diseases- a remarkable outcome

Diseases	**Pre vaccine era annual morbidity**	**Year vaccine recommended for routine childhood vaccination**	**Most recent estimate of U.S. Cases and % decrease**
Measles	530,217	1963	61(>99%)
H. Influenza invasive disease	20,000	1985	243 (99%)
Varicella	4,085,120	1995	449,262 (89%)

Physician hesitancy?

- In a survey of 551 doctors more recent graduates of medical school were 15% less likely to believe that vaccines are effective, compared with older graduates.
- Younger doctors were more likely to believe that immunizations do more harm than good.
- Younger doctors were less likely to believe that MMR, polio, and chickenpox vaccines were safe compared to older doctors.
- Yet 81%, regardless of age agreed that "vaccines are one of the safest forms of medicine ever developed." But each increase in 5 years in the year of graduation was associated with a 20% increased odds that the statement was true.

Omer and Colleagues Oct 2011 IDSA meeting

History of Hesitancy

Social and Cultural Origins of Hesitancy

- Decline in vaccine-preventable diseases
- Recognition of the present limits of medicine, science, technology
- Resurgence of complementary and alternative medicine
- Growth of consumerism
- Malpractice and product liability litigation

Adapted from Kane MA. Vaccine 1998;S73-S78

Science, Media and the Internet

- Distortion of scientific process

  Science: hypothesis → test → accept or reject → refine

  Media: hypothesis "validated" by repetition

- Differing criteria for causality

  Medical, legal, public opinion

- Challenge of risk communication

  Science vs. freelance and feature writers; talk radio

- Access to media, Internet

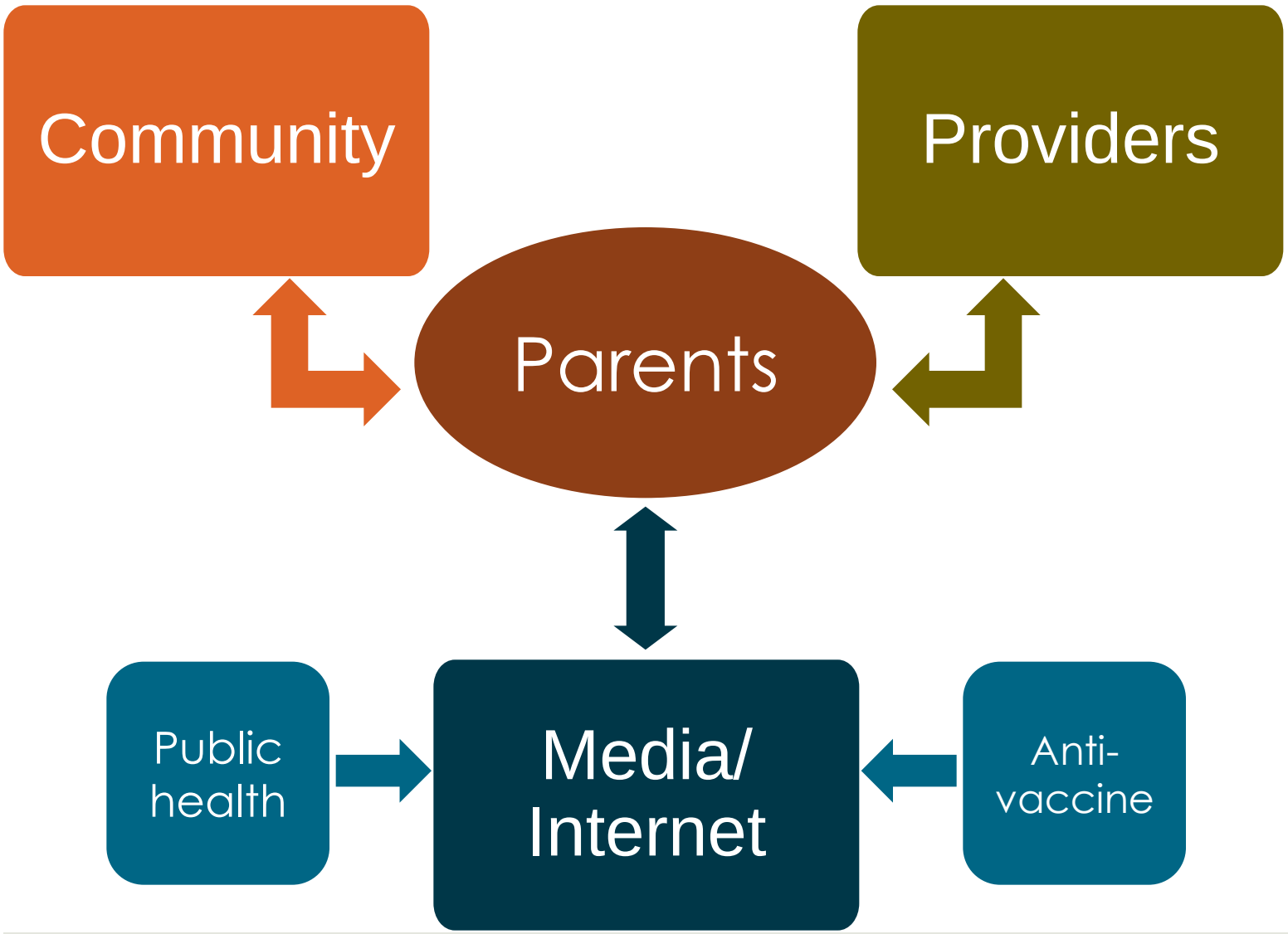
  Credibility of source, media concept of balance, utility to media of controversy

Adapted from Kane MA. Vaccine 1998;S73-S78

Parents want to do what is best for their child… but face a conundrum: What/Who to believe?

SOFTBALL

HARDBALL

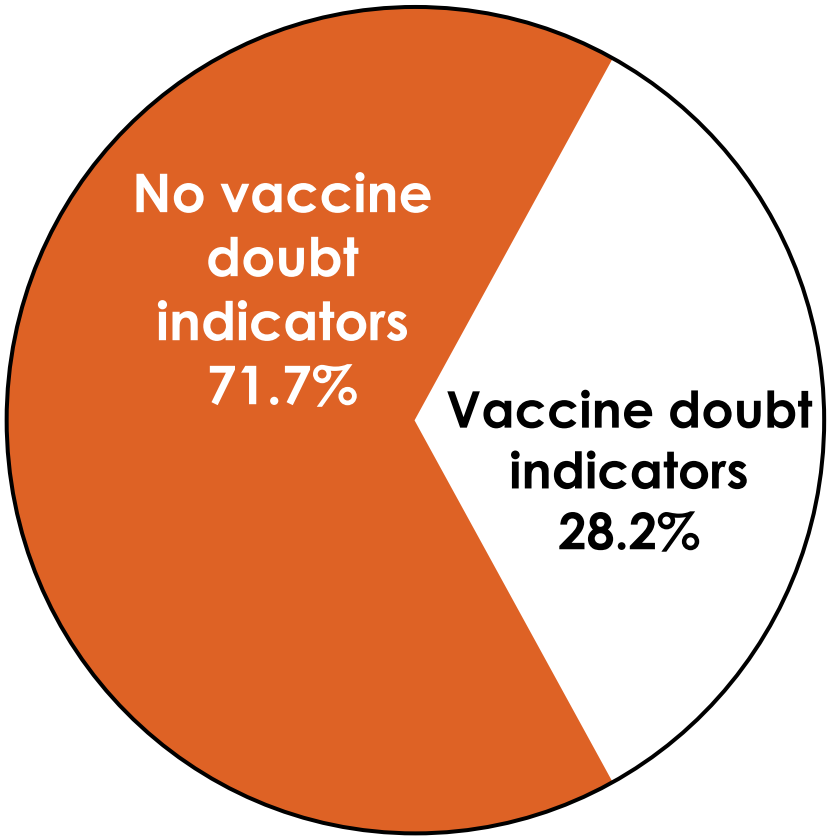


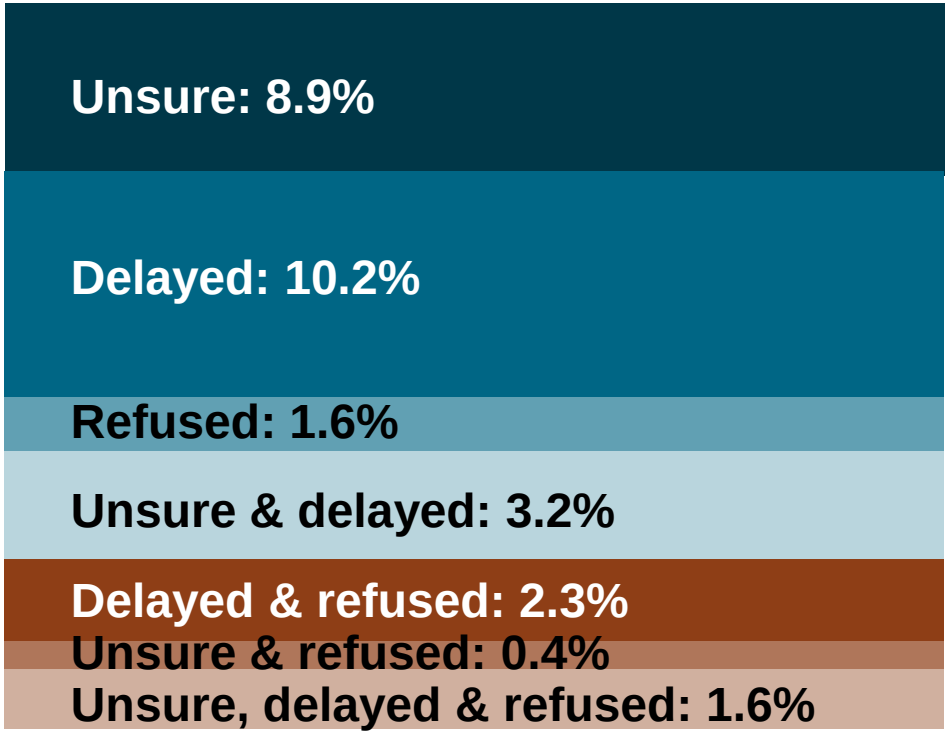
Media Messages

- Doctors don't understand vaccines
- Pharmaceutical companies are not trustworthy
- Vaccine mandates infringe on rights
- Vaccine preventable diseases are not bad

Parents

Parents Have Doubts About Vaccines





Refusal or delay vaccines increased from 22% (2003) to 39% (2008), even after adjusting for increased number of vaccines

Gust DA, et al. Pediatrics. 2008;122:718-725; Smith PJ, et al. Poster, 2010 PAS Meeting, Vancouver BC

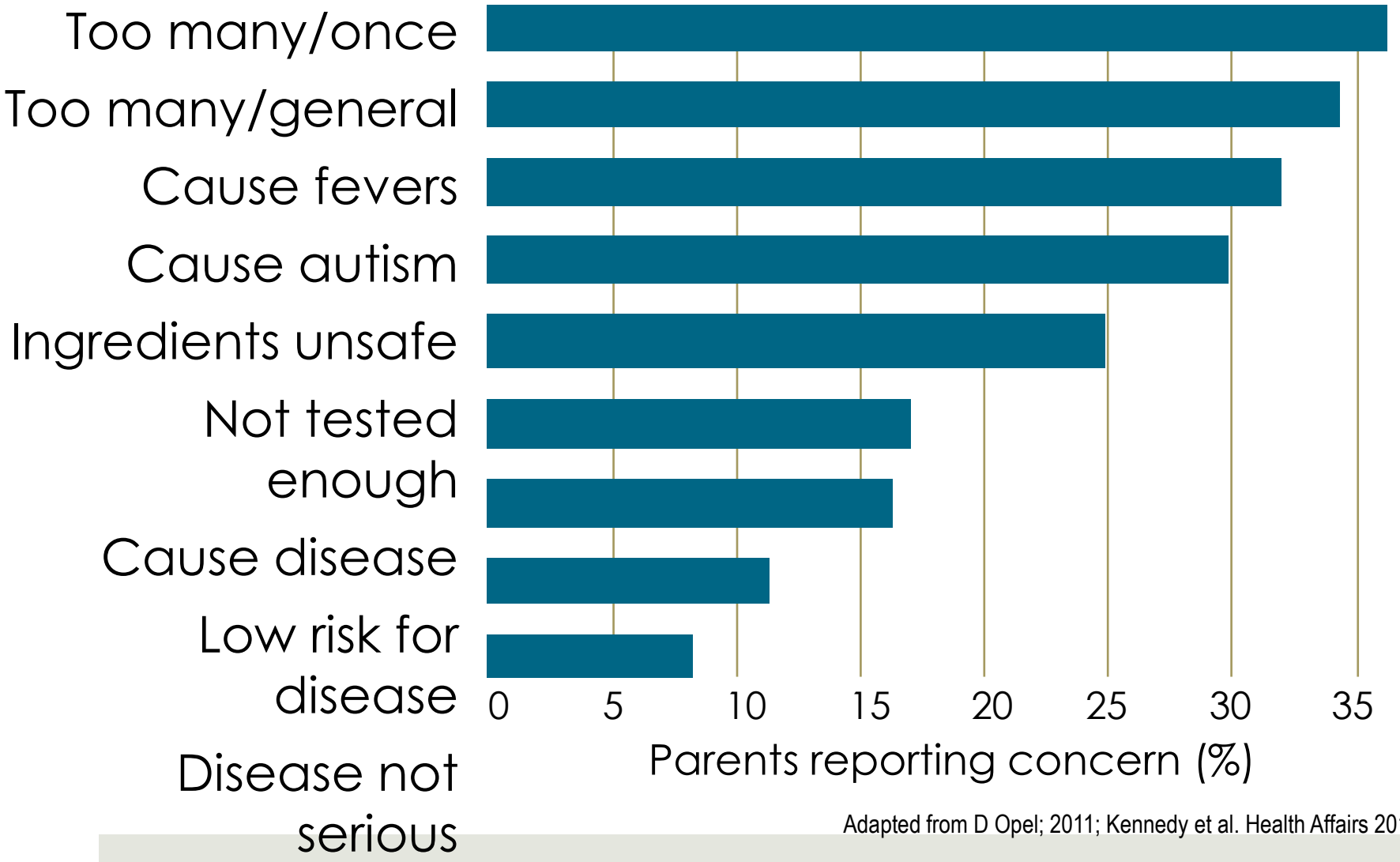
Vaccine Hesitancy

- 85% of healthcare providers will have a parent refuse a vaccine for his or her child each year
- In one study, 11.5% of parents had refused at least 1 recommended vaccine
- Characteristics of vaccine hesitant parents:
  - More likely to be older, educated non-Hispanic white
  - Higher salaries, mother is married
  - Live in a state that allows philosophical exemption
- Concerns about vaccine safety
  - Cause harm 69%
  - Overload immune systems 49%
- Belief that their child is not at risk for disease 37%
- Belief that the diseases are not dangerous 21%

Healy and Pickering Pediatrics 2011;127;S127; Freed et al Pediatrics 2010;125;654; Salmon DA, et al. Arch Pediatr Adolesc Med 2005;159:470-476; Bardenheier B, et al. Arch Pediatr Adolesc Med 2004;158:569-575; Gust DA, et al. Pediatrics 2008;122: 718-725

Parents' Vaccine Concerns

Vaccine concerns reported by parents of children age 6 or younger, 2010



Adapted from D Opel; 2011; Kennedy et al. Health Affairs 2011

Parental Beliefs

- You can hide in a herd
- Natural infection is better than Vaccination
- Vaccination has eliminated infectious diseases at the price of causing chronic diseases
- Vaccine safety testing is insufficient
- Public Health Officials Make recommendations for public and not individual health

Influences on Hesitancy

- Lack of trust in those who make the vaccine and suspicion of profit motive
- Misinformation on the internet
- Failure to appreciate the seriousness of vaccine preventable diseases (low rates, no personal experience)
- Constant media stories claiming vaccines cause illnesses (autism, allergies)

Healy and Pickering *Pediatrics* 2011;127;S127

Types of Parents

- Immunization advocates (33%) strongly agree that vaccines are necessary, safe and important
- "Go along get alongs" (26%) agree vaccines are necessary and safe
- Health advocates (25%) agree vaccines are necessary but not sure about safety
- Fence sitters (13%) slightly agree vaccines are necessary and safe
- Worrieds (3%) slightly disagree vaccines are necessary and strongly agree that they are unsafe, also more skeptical that their child's healthcare providers have their child's best interest at heart

Gust et al

Vaccine Hesitant Parents

Those Likely to change

- Uninformed but educable
- Misinformed but correctable
- Well-read but open-minded

Those Unlikely to change

- Convinced and contented
- Committed and missionary

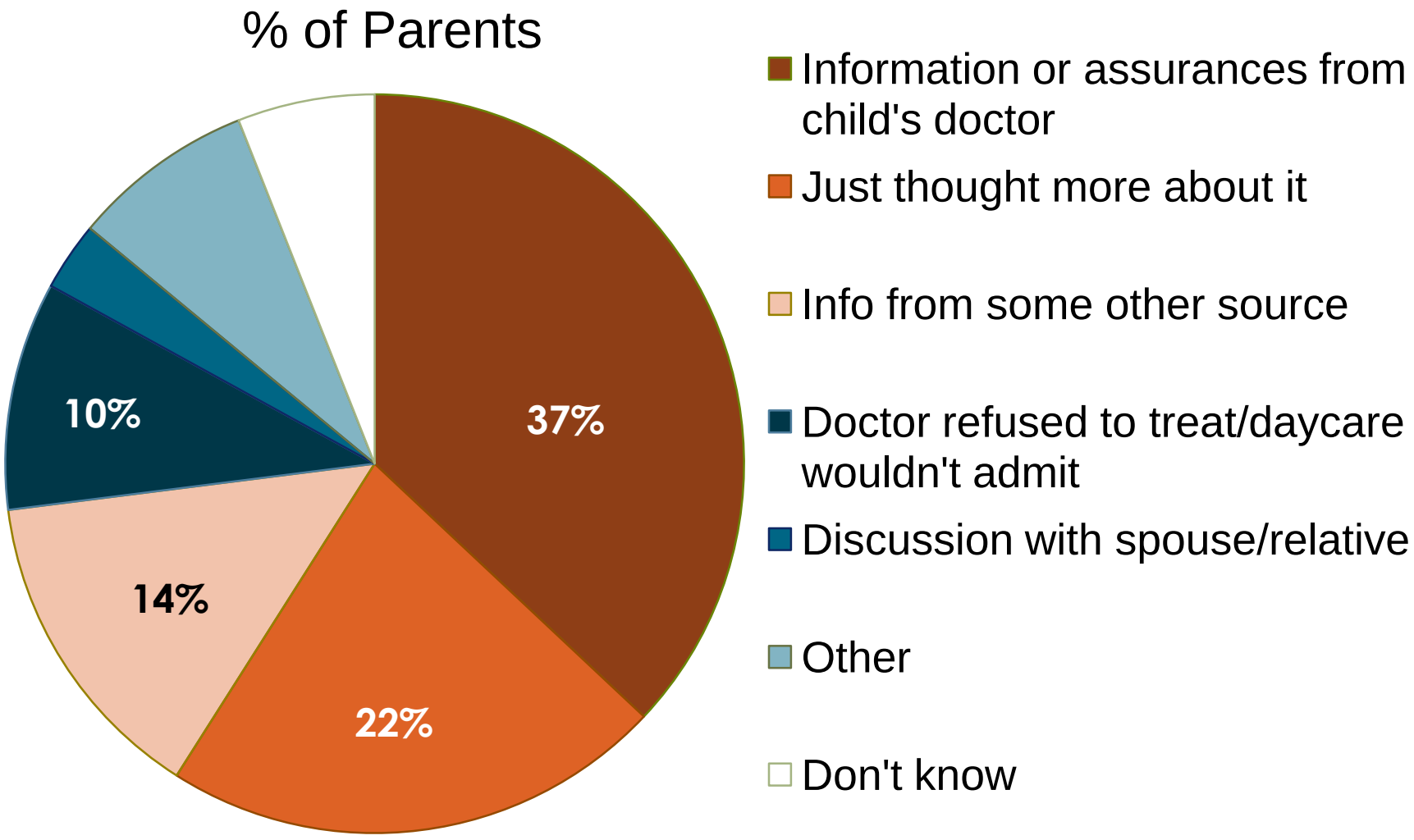
Halperin How to Manage Parents unsure about immunization *Can J CME* 2000;12:62-74
Healy and Pickering How to Communicate With Vaccine Hesitant Parents *Pediatrics* 2011;127;S127

Barriers to Parent-Provider Communication About Immunization

- Hesitant parents
  - May be reluctant to question or challenge
  - Want open dialogue about pros & cons
  - Not receptive to public health benefit messages
- Providers
  - Time constraints
  - May not be up-to-date on safety concerns
  - Fear becoming enmeshed in debate
  - Feel responsible for protecting infant

VAX Northwest 2009: Survey of vaccine-hesitant mothers & provider interviews

Why Parents Change Their Minds



Adapted from D Opel, 2011; Gust et al, Pediatrics, 2008

Communication

Delivery of Vaccine Safety Information

- The source of health information can have an impact on the manner and frequency of its use
- Sources of Perceived Credibility of Vaccine-Safety Information
  - 76% of parents endorsed a lot of trust in their children's doctor
  - 26% other health care providers
  - 23% government vaccine experts/officials
  - 15% family and friends
  - 2% celebrities

Freed et al *Pediatrics* 2011;127;S107

Provider Communication Style Affects Patient/Parent Motivation for Change

Styles that Enhance

- Empathic
- Non-judgmental
- Respectful
- Collaborative spirit
- Emphasis on Choice

Styles that Promote Resistance

- Coercing, arguing
- Shaming, criticizing
- Judging, labeling
- Commanding, threatening
- Moralizing, lecturing

Adapted from Brief Negotiation: Behavior change Counseling in Brief Clinical Encounters, 2nd Edition, The Permanente Medical Group, Inc, Northern California

Clear messages

- Your recommendations are based on the best interest of the child and best available science
- Acknowledge that vaccines may be associated with adverse events and balance that against disease risk
- Acknowledge the difficulty in making the decision and do not overstate the benefits or understate the risks
- The vast majority of reactions are minor and self-limited such as transient low grade fever, or injection site tenderness- serious adverse events can occur but they are exceeding rare

Healy and Pickering *Pediatrics* 2011;127:S127

Addressing General Concerns

- Establish honest and non-confrontational dialogue at an early stage (? Prenatal visit) Use direct unambiguous language.
- Listen carefully to parent's beliefs surrounding immunization
- Listen carefully to their fears
- Assume that parents are attempting to make the best decisions on behalf of their children
- Parents may be more afraid of committing harm than allowing harm (giving an unsafe vaccine vs. taking a chance that their child will develop a preventable disease)
- Paraphrase for the parent what they have told you, and ask if you have correctly interpreted what they said.

Addressing General Concerns

- Provide unambiguous, easily comprehensible answers to known vaccine adverse events and accurate information about vaccination
- Personal stories and visual images of patients/parents affected by vaccine preventable disease and reports of disease outbreaks serve as reminders of the need to maintain high immunization rates
- Message that immunizations are the best and safest option for their child

Provider Messages for Parents

- I understand that you want to do what is best for your child, so do I!
- Many parents feel bombarded with conflicting information and do not know where to turn.
- I recognized that science doesn't provide answers to all the questions that concern you…But science is the best tool that we have to get reliable answers to important questions

Provider Messages for Parents

- There are only a few things that we can do to protect our children and the most important protection is from vaccines.
- I can assist you to get the information you need to feel comfortable protecting your child from preventable diseases.
- To help make a fully informed decision about immunizations here are some science based information sources, unrelated to drug companies and the government.

Decision making

- Even among parents with serious concerns regarding immunization, the greatest influence on their ultimate decision about immunizing their child is their child's healthcare provider
- 1/3 of parents want more information about vaccines so make sure you're asking if they want more information
- The AAP Committee on Bioethics does not recommend discharging families from your practice who refuse or delay vaccines

Tips for communicating

- Be knowledgeable
- Be able to address specific concerns
- Be able to categorize parents and their concerns so that you tailor your message and time expenditure to the family
- Be open to discussion and willing to research specific questions
- Ensure ongoing communication

Tips

- When I discuss vaccines I always ask parents how much information that they would like and if they have any questions or concerns before I launch into my spiel.
- If parents do have concerns I ask them what the concern is and why they have the concern, or if other family members are concerned- often it is a grandparent or spouse.
- Very few parents will not discuss at all, if that happens I confirm at each visit and offer one or two that seem to be the least threatening and most important to their child's safety at that particular age.
- Our EHR does specifically say vaccine refused, and this shows up on our visit summary, I often apologize and say I wish it said declined, but that we need to document that they were offered.
- We do have specific forms for parents that decline that we have them sign.

Preparing for hard conversations with facts

How Do Vaccines Work?

- On the CHOP Vaccine Information center description of Chip and Dale
- Natural immunity from vaccines vs. infection
- Vaccines remove the element of luck by controlling:
  - The potential severity of the pathogen
  - The dose of the exposure (the smallest needed)
  - The timing of exposure (before the period of highest risk)

How Are Vaccine Made?

- Vaccines are made several ways but the goal is to weaken the virus or bacteria in a way that allows the recipient to develop an immune response without developing any symptoms of infection.
- Strategies:
  - Weaken the virus (MMR, rotavirus, oral polio, intranasal flu, varicella and shingles vaccines)
  - Inactivate the virus (IPV, Hep A, injectable flu, rabies)
  - Use part of the virus (hep B, HPV)
  - Use part of the bacteria (DtaP, HIB, pneumococcal, meningococcal)

Fact comparisons

- Measles
  - Risk of encephalopathy from the measles vaccine is 1 in a million which is 1000x less than the risk of encephalopathy from natural measles
  - In the U.S. the risk of acquiring measles is 35x higher in unvaccinated patients
  - About 1/1000 people who get measles die and 1/1000 get encephalitis
  - More than 95% of people who receive a single dose of MMR vaccine will develop immunity to all 3 viruses, a 2nd dose gives immunity to almost everyone who didn't respond to the first dose

Healy and Pickering *Pediatrics* 2011;127:S127

Fact Comparisons

- Meningococcal disease
  - Every year in the United States approximately 800 to 1,500 people are infected with meningococcus and 120 die from the disease. Also, about one of every five survivors live the rest of their lives with permanent disabilities, such as seizures, loss of limbs, kidney disease, deafness and mental retardation
  - Onset can be abrupt and course of disease rapid
  - Original concerns about Guillain-Barre' syndrome have been followed up with studies which show that teenagers who got the vaccine were not more likely to get GBS than those who didn't get the vaccine.

Healy and Pickering *Pediatrics* 2011;127:S127

Specific Concerns

- Link between vaccines and autism:
  - History: 1998 article hypothesizing the combination MMR vaccine damaged the intestinal lining and allowed encephalopathic proteins to cross the bloodstream and brain
  - Feb 2010 Lancet retracted the article
  - Numerous large scale population based studies around the world show no association between MMR and autism
  - Autism spectrum disorders are complex inheritable disorders that involve multiple genes

Freed et al Pediatrics 2010;125;654

Specific Concerns

- Multiple vaccines overwhelm the immune system and trigger a neurologic response that causes autism
  - The immune system has the capacity to respond to multiple vaccines simultaneously and is not overwhelmed by vaccines
  - Mild/moderate illness does not interfere with children's ability to respond to vaccines
  - Infants encounter fewer antigens in vaccines today then they did 40-100 years ago
  - Theoretically an infant could respond to 10,000 vaccines at one time.

Specific Concerns Ingredients

- Animal products: fetal bovine serum- is there is risk of Mad Cow Disease?
- History: July 2000 175,000 cows in UK developed mad cow disease. Then 80 people in the UK got a variant of Creutzfeldt-Jacob disease that may have resulted from eating meat prepared from cows with mad cow disease.
- Some vaccines were made with serum or gelatin obtained from cows in England or from other countries at risk of mad cow disease.
- Article in the New York Times and MMWR followed and the Public Health Service eliminated bovine-derived material obtained from countries at risk for mad cow disease to maintain the public trust in immunizations.

No risk: Prions propagate in the nervous system not the bloodstream

Specific Concerns Ingredients

- Thimerosal
  - Hypothesis that 49% ethyl mercury led to mercury toxicity and to increased rates of autism as we expanded the number of vaccines given to children
  - The biologic plausibility of the hypothesis is questionable given features of mercury poisoning vary from autism and ethyl mercury varies from naturally occurring methyl mercury
  - History: 1997 FDA called for review of mercury in food and drugs, as a precaution, thimerosal was removed from all vaccines administered to infants except influenza vaccine
  - Studies in Denmark, Sweden, Canada, U.K. and U.S. that examined populations over many decades revealed no relationship between thimerosal and autism

More on Thimerosal

- Bill Thompson and colleagues at the CDC in 2007 carefully identified the quantity of mercury exposure from thimerosal before birth (rhogam) to after birth from vaccines in >1000 children and subjected them to over 40 neurological, psychological, and developmental tests and found no significant differences in those who received greater or lesser quantities of mercury.

Reliable Resources

Reliable Resources

- It is our responsibility to be knowledgeable and informed
- We need to be up to date about local media stories and regional outbreaks and potentially get comfortable interacting with media outlets
- Most parents look for information on the internet, television and magazine/newspaper articles, they also read books and search for journal/research articles

Reliable Resources

- A good website will
  - Display who is responsible, funding and how to contact
  - Display the purpose of the site
  - Provide unbiased and accurate information and cite evidence
- Websites:
  - www.medlineplus.gov
  - www.cdc.gov
  - www.nih.gov/icd
  - www.who.int
  - www.aap.org

Pineda and Myers Pediatrics 2011;127;S134

Reliable Resources

- Find local resources – Washington State Department of Health www.doh.wa.gov immunization forms and handouts "Plain Talk about Immunizations"
- www.hss.state.ak.us/apps/imrs/resources.aspx
- National Network for Immunization Information www.immunizationinfo.org or www.nnii.org
- Vaccine Education Center at CHOP www.vaccine.chop.edu
- Immunization Action Coalition www.immunize.org
- www.cdc.gov/vaccines
  - "Parent's Guide to Childhood Vaccines

Supporting parents who immunize

- VAX NW www.vaxnorthwest.org
- Find your school's immunization rates www.schooldigger.com
- Parents PACK online and apps www.chop.edu
- www.cdc.gov/vaccines/parents/index.html
- http://shotofprevention.com/2011/12/28/parents-speak-out-in-support-of-immunization/ Facebook Vaccinate Your Baby, twitter

Cases of hesitancy

Alternative Schedule

- Scott's mom is in her late 30s and is a well educated professional, who runs a parent support internet community, she comes in to the prenatal visit and asks about Dr. Bob's alternative schedule as she opens Dr. Bob's book to a well warn pre-marked page.
- Concern over Aluminum (this is the rationale behind the Dr. Bob Sears alternative schedule)
  - The dose makes the toxin
  - There are small quantities of heavy metals in all of us
  - Exposure at 6 months by immunizations (4.4 mg of aluminum) vs. breast milk by 6 months of age (7mg), cow's milk based formula (38mg), and soy milk based formula (117mg)

Sibling with history of severe reaction

- Joey's mom interviews you when she is pregnant. She has 2 older children, one of whom had an allergic reaction to the Dtap vaccine at her prior pediatrician's office where he broke out in hives and was withdrawn.
- Family with allergies
  - Milk allergy lactose in Menomune
  - Latex free Menveo
  - Incidence of anaphylaxis to gelatin1 in 2 million doses (MMR, varivax, rabies, shingles, some Dtap and Flu)
  - Egg allergy- influenza and yellow fever vaccines
  - Possible yeast ingredients in Hepatitis B vaccine
  - Neomycin in MMR, rabies (imovax),influenza (fluvirin)

Non immunizing

- Alyssa's parents had 2 older children whom they fully immunized, but when Alyssa was born, their chiropractor told them not to immunize.
- There are 2 main camps of chiropractors a more conservative subset opposes vaccines and believe that there is no scientific proof that immunization prevents disease, the more progressive evidence based group is less vocally opposed to vaccinations

Religious concerns

- Thomas' mother did not want to immunize at all. The family is very religious and does not allow their children to attend public school and they dress in a very conservative manner and openly express their religion.

Immigrant concerns

- Somali community in King county concerned about pork gelatin
- There are currently no gelatin free brands for MMR, MMRV or varicella or shingles vaccines
- Other vaccines that contain gelatin DTaP(tripedia), Influenza (fluzone, flumist), rabies (rabavert)
- Russian speaking communities in Washington have lower immunization rates.

Information for King County Healthcare Providers Regarding Vaccine Hesitancy in the Somali Community – 22 September, 2011
http://www.withinreachwa.org/wp-content/uploads/2013/04/RussianFocusGroupsPowerPoint.pdf

Fear of autism

- Helen's mom works in the birth to three program as a speech therapist. She is very hesitant to give the MMR vaccine due to concerns over the association between MMR vaccine and autism. She acknowledges that these fears aren't backed by any scientific evidence but that she feels safer to wait on giving the MMR.

Religious concerns about additives

- J.J.'s father is concerned about the use of aborted fetuses in the development of vaccines.
  - Rubella, Hep A, Varicella, Rabies are made in fetal embryo fibroblast cells
  - Response from the vatican

Questions